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still be said that *mere* identity here is not givenness. Nothing is given except as this given essence is also cognitively *used;* givenness is an aspect always of the larger knowledge situation. But *as* an aspect, the capacity for "conjuring up" a definite thought content, immediately apprehended, belongs not to affirmation or act, but to the psychic state in its own right, and the characters it is able to bring upon the scene. The difference which Professor Strong makes between knowing in perception an object, and knowing in thought a past experience (in which latter case he allows that the vehicle must be a mere copy or duplicate),[31] is thus not, as he tends to make it, a difference in kind. True "contemplative" knowledge *always* involves such a copy (or identity of character); and sense perception differs from thought only in the degree in which critical reflection may throw doubt upon the full adequacy of its profession to convey, on its qualitative side, a correct description of the real world. Meanwhile for the other and psychological question, which is interested solely in the mechanism through which a sensation or image may serve as an effective cue to conduct, the whole essence concept is irrelevant; sensation plus instinct is all that we need.

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TESTS OF TRUTH

THE ancient faith that somewhere, in some form, there is such a thing as a universal criterion, a kind of philosopher's stone, the bare touch of which is sufficient to distinguish the pure gold of truth from all baser metals, is still with us, and in many disguises is strongly entrenched in modern logic and epistemology. The *dictum de omni et nullo*—that famous principle of syllogistic reasoning—still serves to separate the valid from the fallacious. The *Principle of Identity* and the *Law of Contradiction* are still invoked in the same cause, and we still have in our midst a band of true believers in the might of *Direct Intuition, Coherence, Correspondence,* and the *Inconceivability of the Opposite.* In short, wherever we have a theory of knowledge, we tend to have, among the characteristics by which it is defined or made determinate, certain attributes which come to be regarded by the faithful as infallible criteria of truth.

The object of the present paper is not to enter upon a detailed discussion of the manifold forms in which this absolutistic faith still wins its proselytes, but rather to examine the general idea which gives to such a faith its meaning, to find out what can be said in its favor, to see how far, if at all, it can be of use in the discovery and organization of empirical truths, and to see where—and if possible how and why—it breaks down in practise.

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[31] P. 113.

I

With this aim, we shall begin by considering an instance of the actual pursuit of truth in the concrete, in the field of natural science. We have before us a dish containing a fluid which is either an acid or an alkali. We have also red and blue litmus paper. Can we, by any manipulation of universal criteria, discover whether the fluid is acid or alkali—or are we not rather compelled to apply the specific tests of experiment and observation? In seeking truth within the sphere of sensory experience, our methods of discovery, and the concrete tests which we actually employ, appear to be empirical, and to vary according to the concrete problems with which we are faced. There does not appear to be any place, in the attempt to discover concrete answers to concrete questions, for the application of any *universal* test. No doubt it is true that we are in some sense presupposing the laws of identity and contradiction, the principle of coherence, and the rest. But these principles are too general, and too remote from the concrete problem, to afford us much assistance when it comes to detailed investigation. The laws of identity and contradiction, for instance, inform us that the solution of the problem is what it is, and is not what it is not. The principle of coherence tells us that our solution will cohere with the vast body of ascertained truth in a single system. The principle of correspondence tells us that our conclusion, if true, will correspond to the facts, *etc.* But no one, and no combination, of such principles will ever inform us whether the fluid before us actually is or is not acid. In fact, these principles plainly refer rather to the organization of elements of knowledge which we have obtained elsewhere—from sense-experience. They do not seem able to increase the bounds of knowledge, but only to organize it.

They are not, however, to be regarded as entirely useless, even in the discovery of concrete answers to concrete questions. In organizing elements of knowledge obtained from sense-perception, we may, perhaps, by adopting new viewpoints and effecting novel combinations, arrive at answers which are concrete and yet are independent of further sense-experience. Every member of the congregation is desirous of discovering the age of the new minister. In the course of a sermon he happens to mention that he took part in the Spanish-American war, and in some special reference happens to state that he was only eighteen at the time. By putting together these two items of information and comparing them with the present date, every member of the congregation at once deduces his present age, and the concrete problem has received a concrete solution. Has not this result, it might be asked, been effected by applying the general principle of coherence?

Let us consider. The actual discovery is made by subtracting 1898 from 1919, and then adding the answer (21) to 18, which gives us 39 as his present age. That is to say, the answer is discovered by subtraction and addition—operations somewhat more specific than "coherence." And not only so, but by subtracting *1898* from *1919*, and by adding the answer to *18*—*i. e.*, by very specific addition and subtraction. If we were acquainted with the general principle of coherence, but did not know how to add and subtract, the problem could not be solved. And even if we were acquainted with the general types of mathematical operation, unless we also knew that we were to subtract specific numbers, and add specific numbers, the concrete question would continue to remain without a concrete solution. It looks, then, as though, even when we restrict ourselves to the *organization* of knowledge, the principles which we actually *use* are specific, and contain elements which are empirical, and vary from one concrete problem to another.

So far, then, as the *discovery* of concrete truths is concerned, these general criteria are of little or no assistance. But, it may be urged, their proper use is other than this. Given some discovery, derived, it may be, from sensory experience, these principles may be applied to *test* the discovery, to find out whether it is valid or not, whether it corresponds to fact, whether it is consistent with the whole body of ascertained truth, *etc.* Their proper use is thus, not originative, but critical. They do not tell us exactly what is true, but they do help to discover what must be rejected as false, *i. e.*, as inconsistent, or not corresponding to fact, *etc.* Dialectic, then, or the science of these rules, is the *scientia scientiarum*, the universal science which sits in judgment upon the concrete "laws" proposed for general acceptance within the departmental sciences, and decides upon their consistency or inconsistency, their correspondence or non-correspondence to fact.

Good. The office of the dialectician, then, resembles the office of the book-reviewer. It requires omniscience. The reviewer must know what the facts are, before he can judge whether the suggested formula states them correctly or incorrectly. So too with the dialectician. He must know more than the departmental scientist. On the one hand, he must have a profounder viewpoint and a wider logic, and on the other, in order to apply his general touchstone to the concrete problems, he must know more than the special scientist within his special field. He must know what the special facts are, which the scientist does not know, but is seeking to formulate. This knowledge is a *sine qua non,* whatever the criterion selected. It is as true of "coherence" as of "correspondence." To know that a given proposition is coherent with the whole body of ascertained truth, it is necessary to know, not only the given proposition, but also the whole body of ascertained truth—*i. e.,* to have at least the special knowledge of the scientist. But in order to sit in judgment upon his work and decide whether it is consistent with some higher viewpoint, it is necessary to have still further knowledge; and to decide absolutely without appeal whether it is consistent or inconsistent, true or false, it is necessary to have knowledge of the ideal system of completely consistent knowledge—*i. e.,* to have omniscience.

In order, then, to apply these criteria as universal tests of any and every concrete formulation of fact which sets up for a truth, we must have omniscience. This is, in itself, a fatal objection to the use of these general formulæ as *tests.* For, if we were not in possession of the truth, we could not apply these tests in any given case; and if, on the other hand, we were already in possession of the truth, in that case we should not require the roundabout and empirical method of trial and error which the departmental scientists use. At best, the use of such standards would be secondary, in order to inform others *ex cathedra* by how much their approximations to truth fell short of the complete knowledge which was in our own possession; and if certain members of the human race were actually in possession of this complete knowledge, they would publish what they knew, and the empirical methods of the scientist would fall into desuetude.

Again, as in discovering truth, so in testing it, it would not be the *general* criterion which would be applied, but always something more *specific.* To test the correctness of the proposition, *This liquid is acid,* we do not ask, "Does it correspond with the facts—is it coherent—is the opposite inconceivable?" We take a piece of blue litmus paper, dip it in, and see whether it turns red or not. The test *used* is concrete and specific. So too, when told that the minister's age must be 39, because he took part in the Spanish-American war at the age of 18, we test the truth of this statement by going through the appropriate numerical calculations. In actual practise, then, the general or universal criteria do not seem to be used.

There exists a further argument, of a more abstract and dialectical character, which proves, not only that the principles of coherence, contradiction, *etc.,* are useless in testing truths, but that no universal criterion whatever could be of the slightest use. The argument is as follows: Let *x* be any universal criterion of truth—

i. e., the law to which any and every statement which is to be recognized as true must conform. Let *A* be any proposition whatever, the truth of which is to be tested. Then, if *A* conforms to *x*, *A* is, by definition, "true." But a further question may be raised: How do we know that our application of *x* to *A* is itself correct? We must apply the test, and thus reach the conclusion, "The proposition *A conforms to x* itself conforms to *x*." But about this test of the application of the test to *A*, the same question can again be asked, and we are thus led, and led inevitably, to the infinite regress.

What are we to conclude from this? To make a judgment, we reflect upon sensory experience. To *test* that judgment, we reflect upon that reflection. To test that further reflection, we reflect further, *etc.* We must conclude that the "further" reflections carry us no further. What we really *do* is to reconsider the evidence, to go over the ground again, and repeat the experiment. If our repetition leads us to a different conclusion, we believe that we simply did not *think* the first time. If, however, on going over the evidence, we come to the same conclusion, we regard that conclusion as, so far, established. The test of truth, then, which is actually applied in practise, seems to consist in *repeating the specific experiment*, or in having others repeat it, so as to confirm our results—and not in applying any general or universal test such as coherence, correspondence, *etc.*

Finally, however, we must note that there is no virtue in repetition as such. If we can not be certain of a proposition the first time we make a judgment, will one, two, three, four, *n* repetitions give us the required certainty?—The idea is, on the face of it, preposterous. Repetition is clearly an external device, a caution to ensure that we really think, really reflect upon the concrete situation with which we start, omit nothing, neglect no circumstance that is relevant. As a rule, it is the imperative, Be thorough! It bids us, when we reflect upon our concrete problem, really to reflect, and not to leap to conclusions. Such an imperative, however, is no *test* of truth. For a test, in order to be used as a test, must be different from what is tested—*e. g.*, as blue litmus paper is different from acid. But in this case, the "test" actually employed by the scientist is not different from the original experience in all its concreteness. They fall together. The concrete "test" of a concrete scientific proposition, then, is nothing more or less than all the evidence upon which the proposition rests. This will plainly differ from one problem to another, and will be empirical, concrete, and particular. Expressed in terms of the symbolism suggested above, either *x* is different from *A*—as a universal test differs from a particular proposition—in which case we fall into the infinite regress, and can never apply our test to the particular proposition; or x and A coincide—in which case we are left with particular truths, each with its own concrete experience as its guarantee, but without any *universal* criterion. Our conclusion thus is, that to apply any universal criterion to any concrete proposition requires omniscience, and that short of omniscience it can not be done. We fall into the infinite regress in the attempt; for "Truth" is infinitely distant. There is a gap between absolute Truth, on the one hand, with its universal and necessary criteria *a priori,* and on the other hand the concrete truths, with which human experience, and the specific sciences gradually built up on the basis of that experience, are concerned. Each specific science has its own specific tests—the concrete evidence upon which its (empirical) laws are based. But from a human point of view we have only the departmental sciences, the specific problems, each with its specific evidence. There is, from this viewpoint, no *scientia scientiarum,* no universal science of dialectic applying its *a priori* tests of Truth to the loose and uncertain approximations of empirical science.

II

In the above, what is our position? We have drawn a sharp distinction between the absolute and the empirical, between dialectic and science, and have argued that the gap between these can not be bridged by any amount of human speculation which starts from the more metaphysical side. It looks as though we have duly noted the existence of a state of war between science and the forces of transcendentalism, and have definitely associated ourselves with the forces upon the side of science. What, it might well be asked, is our position but that of the Pragmatist, throwing yet another stone at the now discredited bugaboo, absolute idealism?

This impression, natural as it might seem, is too hasty. We have pointed out that, in spite of the distinction between our more metaphysical and our more empirical thinking, there are, in the camp of the idealists, many weaker brethren, whose faithfulness—*i. e.,* uncritical acceptance of illegitimate consequences of the idealistic position—leads them to attach to certain attributes of knowledge in the idealistic theory a value which these attributes do not possess. Our conclusion is that such attributes can not be used as universal tests of concrete truths. The gap remains, and can not be bridged as the faithful, but uncritical, brethren believe. This reasoning is directed only against the *un*critical idealist, the tender-minded brother who seeks in absolutism a refuge from the storm and stress of empirical problems, and from the viewpoint of a romantic idealism of the imagination condemns the unromantic but very necessary work of the practical scientist.

Not all idealists, however, are thus to be lumped together as "tender-minded" refugees from the world of work-a-day wrestling with the obstinate problems of concrete life and science. There is an idealism of the will as well as an idealism of the imagination. There is a critical, as well as an uncritical idealism. It is perhaps only fair that we should set forth, in brief outline, the theory which remains untouched by our criticisms.

For the theory of critical idealism, there exists a gap between empirical truths on the one hand, and metaphysical Truth on the other, and it is considered hopeless to attempt to bridge this gap from the more metaphysical side. It remains, however, to attempt to bridge the gulf from the more *empirical* side, acquiring ever more and more scientific observations, and organizing these more and more, so that in time our empirical knowledge will gradually approach more nearly the ideal of knowledge organized into a single perfect system. The use of the concept of a more perfect knowledge is not as an absolute test for the discrediting of empirical formulations in favor of some mystical contemplation, but as a practical vision which shall definitely encourage and guide our steps. It is a stimulus to renewed effort, and consists in a consciousness of the development of science into better science. There is nothing about it which can be regarded as "absolute." It arises from reflection upon the progress of science in the past. This leads to an ideal continuation of the curve of scientific progress into the not-too-distant future, and thus gives us a standard which is not static, fixed, and absolute, but develops with the advance of scientific knowledge, beckoning us always further forward, towards a better, finer, truer, more scientific knowledge. The uncritical idealistic viewpoint gives us a static Superlative—infinite, absolute, unimprovable Truth—utterly removed from human concerns, and so far above human aims that it remains an object for ecstatic contemplation only, divorced from action. The critical viewpoint gives us no Superlative, but a Comparative, firmly based upon human experience in the past, and pointing towards its gradual realization in every step forward which knowledge takes in the present and not-too-remote future. For the critical idealist, the ideal of truth is a not-too-remote vision which guides and stimulates us in its quest—a quest continuous with present scientific advance. The tests of concrete truths remain empirical, scientific, and human—pointing, however, always a little beyond what has actually been attained. As to an absolute or universal criterion of Truth, however, from this standpoint there is no such thing.

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